

comprising:

a mass;

5 first and second force cells for generating first and second rotating force vectors to form a resultant force vector acting on said mass to impart mechanical vibration thereto;

10 said first force cell including a first rotating eccentric to generate said first rotating force vector; an electrically controlled first drive for rotating said first rotating eccentric; and, a first angle sensor for detecting the angular position of said first rotating eccentric relative to a reference direction and outputting a first signal indicative thereof;

15 said second force cell including a second rotating eccentric to generate said second rotating force vector; an electrically controlled second drive for rotating said second rotating eccentric; and, a second angle sensor for detecting the angular position of said second rotating eccentric relative to a reference direction and outputting a second signal indicative thereof; and,

20 said electrically controlled first drive being separate from said electrically controlled second drive.

6. The arrangement of claim 5, wherein:

said first force cell including a first control and monitoring device connected to said first angle sensor for receiving said first signal;

5 said second force cell includes a second control and monitoring device connected to said second angle sensor for receiving said second signal;

a primary control unit connected to said first and second control and monitoring devices;

10        said primary control unit functioning to generate first and second control signals for setting a rotational frequency, direction of rotation and phase position for said first and second force cells, respectively;

15        said first control and monitoring device receiving said first control signal and functioning to calculate the direction of rotation, speed of rotation and phase position of said first rotating eccentric based on said first signal and to then generate a first drive signal for said first drive to regulate the direction of rotation, speed of rotation and phase position thereof; and,

20        said second control and monitoring device receiving said second control signal and functioning to calculate the direction of rotation, speed of rotation and phase position of said second rotating eccentric based on said second signal and to generate a second drive signal for said second drive to regulate the direction of rotation, speed of rotation and phase position thereof.

5        7. The arrangement of claim 5, said primary control unit having an input for receiving a control signal indicative of parameters for a specific force vector diagram and functioning to determine the direction of rotation, speed of rotation and phase position of each of said first and second rotating eccentrics based on said parameters.

